

SYSTEM AND METHOD FOR USING MICROGYROS TO MEASURE THE ORIENTATION OF A SURVEY TOOL WITHIN A BOREHOLE

Abstract of the Disclosure

A system and method for determining an orientation of the survey tool within a borehole utilizes a survey tool including a plurality of rotation sensors each having a sensing axis and a direction of least acceleration sensitivity. The plurality of rotation sensors are mounted in a housing with their sensing axes generally parallel to one another and with their directions of least acceleration sensitivity generally non-parallel to one another. The survey tool further includes a controller adapted to calculate a weighted average of the detected angular rotation rates from the plurality of rotation sensors. The weighted average includes the detected angular rotation rate of each rotation sensor about its sensing axis weighted by the detected acceleration along its direction of least acceleration sensitivity.

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